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(54) Title: <b>APPARATUS AND METHOD FOR OBTAINING INFORMATION FROM A COMPUTER NETWORK USING A SCANNER AND BROWSER</b>		
(57) Abstract  A computer (105) having a web browser (106) is coupled to a bar code reader (117) and used for accessing the internet and/or intranet (122). The bar code reader reads a bar code that contains a user resource locator (URL) address to a specified web page. A direct software program and menu software program is used with the web browser to access information corresponding to the URL address. The bar code may contain other information such as browser instructions and/or software instructions. Products may likewise be registered using user personal data. Finally, customized web pages targeted to specific users may also be created using the web browser and scanned bar code data.		

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APPARATUS AND METHOD FOR OBTAINING INFORMATION  
FROM A COMPUTER NETWORK USING A SCANNER AND BROWSER

5                                    BACKGROUND OF THE INVENTION

Field of Invention

                  This invention relates to accessing information from a computer  
10 network, such as an internet and/or intranet computer network.

Description of Related Art

                  The challenge of making the internet more useful for people is  
enabling greater simplicity and efficiency in accessing, managing, and  
comprehending information. This is especially challenging due to the  
15 immense amount of information and lack of structure on the internet. For  
example, a user may have difficulty in: 1) locating information; 2)  
combining information; and 3) accessing customized information.

                  A user often has difficulty in accessing an organization's or  
company's web site or page on the internet. Many companies do not use  
20 their company names in their user resource locator ("URL") address. The  
company name may be too long, or may be currently being used by  
another company or entity. Users often must "hunt" for the web page by  
entering a barrage of key words into a search engine hoping for the  
correct "hit." Even if the correct URL address is obtained, a user may  
25 erroneously input the URL address into a web browser, wasting computer  
resources and time before the web browser detects the error. When a  
user does finally obtain a company's web page, the user may have  
further difficulty in finding particular information, such as a particular  
product description or user's manual. Long lists of product names and  
30 categories may have to be traversed before locating the product or  
information the user is interested in.

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Once a particular product is located, there is not a relatively easy way of entering user personal data, such as an address, telephone number, credit card number and so on, into an internet form, which may be required. For example, a user may have to fill out a form by keying in all the user personal data before purchasing the product on the internet. Likewise, a user may have to fill out an internet form to register a product which has already been purchased. Although much of the user personal data required on these forms is the same, the user must key in the same information every time a user wishes to purchase a product.

Companies face significant challenges in supplying the appropriate information to the appropriate customers or individuals on the internet. Companies do not have a way of obtaining personal information of users accessing their web page. Thus, information on company web pages are not targeted toward particular market segments or individuals having particular demographics. Typically, a company's web page is generic in nature and is not constructed or customized to a user's personal profile or needs. For example, a company may wish to present different web pages to users having different income brackets. A company may wish to present one web page highlighting expensive products to users in one income bracket and in a second web page highlight less expensive products to users in lower income brackets.

Therefore, it is desirable to provide an apparatus and method for easily accessing a web page and other information on the internet. The apparatus and method should also allow for entering user personal data into web page forms. It is further desirable to create customized web pages for different users based on user specific information.

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**SUMMARY OF THE INVENTION**

The present invention offers an apparatus and method for entering web addresses and files using bar code scanning. A company's products can have an associated bar code that contains the internet location of where relevant information regarding the product is located. The user then may use a scanner coupled to a web browser to obtain information regarding the product. The user may likewise register the product. The bar codes can be associated with objects such as shoes, tennis rackets, business cards, and promotional items or fliers.

10       According to an aspect of the present invention, an apparatus for obtaining information from a computer network using a bar code includes a data processing apparatus means and a scanner means. The data processing means is coupled to a computer network and scanner means. The data processing means includes a software program for accessing  
15       the computer network.

      According to another aspect of the present invention, a data processing apparatus is provided. The data processing apparatus includes a display and a bar code scanner for supplying input data in response to a user scanning a bar code. The data processing apparatus  
20       also includes a web browser for accessing a computer network and a memory for storing data, images, the web browser, and programs. A processor controls the memory, the scanner, and the display in response to stored programs and input data to perform data processing operations. The program includes 1) means for converting the input data to ASCII  
25       data; 2) means for identifying a user resource locator ("URL") address responsive to the ASCII data and, 3) means for passing the URL address to the web browser and instructing the web browser to search for the URL address.

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According to another aspect of the present invention, a method for obtaining information on a computer network comprises the following steps: Scanning a bar code having associated information. The bar code associated information is converted to an ASCII string containing a URL address. The URL address is passed to a browser and the browser is instructed to locate the URL address.

According to still another aspect of the present invention, a method for registering an owner's name of a product having a bar code comprises the following steps: Scan the bar code having associated information. Convert the bar code associated information into an ASCII string and identify a URL address associated with the product. A URL address is the accessed to load product information. A personal database containing personal data is also accessed. The personal data is then transferred to the URL address responsive to bar code associated information.

According to another aspect of the present invention, a method for creating a customized web page using a bar code associated with a product includes the following steps: Bar code data is converted to an ASCII string and a URL address is identified in the ASCII string. Custom files at the URL address identified in the ASCII string are located and loaded into associated panes.

#### BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying drawings, referred to herein and constituting a part hereof, illustrate principles and embodiments of the present invention, and together with the description serve to explain the principle of the invention in which:

FIG. 1 illustrates a data processing apparatus, such as a computer, and a bar code scanner according to the present invention.

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FIGS. 2a-e illustrate a variety of data processing apparatus and bar code scanner hardware embodiments and connections according to the present invention.

FIG. 3 illustrates a variety of data processing apparatus and scanner embodiments coupled to the internet/intranet according to the present invention.

FIGS. 4a-c illustrate methods for obtaining information from a bar code according to the present invention.

FIG. 5 illustrates a method for translating bar code information according to the present invention.

FIGS. 6a-c illustrate creating a customized web page according to the present invention.

#### DETAILED DESCRIPTION OF THE INVENTION

##### I. Data Processing Apparatus, Including a Web Browser and Scanner

Fig. 1 illustrates a data processing apparatus 100 having a web browser 106 and scanner 117 according to the present invention. In an embodiment, data process apparatus 100 includes computer 105 which may include a floppy disk drive 110, random access memory ("RAM") 112, a storage device 114, such as a hard disk drive, and a central processor 113. Web browser 106, scanned input decoder 115 and personal user database 111 is stored in RAM 112. In an alternate embodiment, data processing apparatus 100 may be a "network computer" and/or "web-enabled television" available from WebTV Networks, Inc., Palo Alto, California. In another embodiment, data processing apparatus 100 may be a web-enabled telephone, for example a model P100-A/B available from Philips Home Services Inc., 1764A New Durham Road, South Plainfield, NJ 07080.

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In an embodiment, web browser 106 may be a Netscape Navigator available from Netscape, located in Sunnyvale, California. Other web browsers, may also be used. In an embodiment, Microsoft's Explorer web browser, as well as Mosaic, may be used. Objects, pointers,  
5 program files, and data may be accessed from storage device 114. This information may also be accessed from internet and/or intranet computer network 122 via browser 106 and communication line 128.

In an embodiment, browser 106 interfaces with at least one input device on line 125. The input devices may include keyboard 119, mouse  
10 120 and/or scanner 117. Other input devices may include a telephone, microphone, voice and/or optical recognition devices. In the preferred embodiment, scanner 117 is a bar code reader. In an embodiment, the bar code reader is a DataPen ICR intelligent character recognition reader by Primax Electronics available from System ID Warehouse™, 1401  
15 Capital Avenue, Plano, Texas 75074. The character recognition reader can discriminate input by font size, font type, and/or font position relative to other fonts present on a scanned surface as well as positioning relative to other information whether the scanned surface is image or text. The character recognition reader connects directly into the computer's  
20 parallel port. Other embodiments may include magnetic strip readers, two dimensional bar code readers, and laser diode readers.

Output device 102 is also coupled to computer 105 by line 126 and may include a display, speaker, and/or a virtual reality device.

Figs. 2a-e illustrate a variety of data processing apparatus and  
25 scanner embodiments according to the present invention. In particular, A scanner may be connected: 1) in parallel with keyboard 213 and computer 208(Figs. 2a-b); 2) directly to a serial or communications port of computer 208(Fig. 2c); 3) directly to keyboard 213(Fig. 2d) or 4) directly to Personal Digital Assistant 220(Fig. 2e).



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Fig. 2a-b illustrate a scanner 209, such as a bar code scanner, connected to a computer 208. Scanner 209 and keyboard 213 are connected to computer 208 by line 205. Computer 208 includes browser 106. Computer 208 is also connected to a modem 207 to access  
5 a computer internet and/or intranet network. In this embodiment, a bar code decoder is included in scanner 209.

In another embodiment the bar code decoder is an external decoder, such as Tiger BCK-115 ("Wedge"), obtainable from System ID Warehouse™, 1401 Capital Avenue, Plano, Texas, 75054. Fig. 2b  
10 illustrates the connections between a bar code decoder 232, such as an external "Wedge" Bar code decoder. Information is transferred from bar code reader 230 to bar code decoder 232 on line 231. Line 233 then transfers data from decoder 232 and/or from keyboard 235 to computer keyboard input slot 234. In an embodiment, line 233 is a "Y Cable" such  
15 as a product ID# CBL-021 available from the System ID Warehouse™.

Figure 2c illustrates a scanner 209 connected directly to a computer 208 on line 205. Keyboard 213 is also connected to computer 208. Scanner 209 is connected directly to computer 208 by cable 205 at the computer serial or communications input port 208a. Computer 208  
20 also includes browser 106 and bar code decoder software 115. In an embodiment, the decoding software 115 may be a Wedge Advanced Software Product (WASP™), available from System ID Warehouse™. Computer 208 is also connected to a modem 207 to access a computer internet and/or intranet network.

25 Figure 2d illustrates a scanner 209 connected directly to keyboard 213 which is connected to computer 208 containing browser 106. Computer 208 is also connected to modem 207. In this embodiment, scanner 209 includes a scanner decoder. In another embodiment, keyboard 213 includes a bar code decoder.

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Fig. 2e illustrates a Personal Data Assistant ("PDA") 220 having a browser. A scanner 219 is connected to PDA 220 via the I/O (Input/Output) port 220a using connector 221. PDA 220 is connected to internet and/or intranet computer network via wireless connection 218 and contains browser 106 as well as decoder software 115.

In another embodiment, two dimensional bar code symbols such as PDF417 may be used so as to increase data input efficiency. Such two dimensional bar codes have the capacity for encoding and transmitting significantly increased scanned information quantities.

Fig. 3 illustrates a computer and scanner embodiment connected to an internet/intranet network according to the present invention. In particular, Fig. 3 illustrates two embodiments.

In the first embodiment, a computer 311 having processor 379 is connected to computer internet network 313. The computer also includes memory 380 for storing various software programs such as browser 350, menu scan software 409 and direct scan software 401. In an alternate embodiment, computer 311 may be coupled to an intranet computer network 313. Computer 311 receives input from a keyboard 310 and a decoder 309 connected in parallel with keyboard 310. A bar code 308c is scanned by bar code reader 308 and entered into computer 311, via bar code decoder 309, as if the data had been typed in at keyboard 310.

In an embodiment, bar code reader 308 may be a hand-held bar code scanner known as the TIGER CCD-70 from the System ID Warehouse™ located at 1401 Capital Avenue, Plano, Texas 75054. Bar code 308c may be located on or near products, such as shoes, tennis rackets, business cards, and promotional items or fliers. This enables easily locating information regarding the product located at a specific web site, as described in detail below. Information scanned by bar code reader 308 from bar code 308c is converted into an American National

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Standard Code for Information Interchange ("ASCII") characters by bar code decoder 309 and passed to computer 311 through connector 309a.

In an embodiment, bar code decoder 309 includes a memory 322 having a first memory location 322a and a second memory location 322b. Direct scan software 401 and menu scan software 409, stored in memory 380 of computer 311, are used in conjunction with information stored in memory locations 322a and 322b. Memory location 322a contains a software command for loading the ASCII string generated by bar code 308c into a web browser 350 URL search field. Memory location 322b contains a software command for commanding browser 350 to initiate a search for the URL address. Browser 350 then uses the bar code translated ASCII string (containing a URL address in one embodiment) and the commands in memory locations 322a-b to locate the appropriate web site, as described in detail in the direct scan and menu scan methods described below.

In another embodiment, computer 301 is also connected to Internet 313. In this embodiment, hardware decoder 309 is not used. Computer 301 receives input from a keyboard 307 and bar code reader 306, such as TIGER CCD-70 scanner, as described above in Fig. 2c. Computer 301 includes memory 360 and processor 399. Memory 360 includes browser 304, direct scan software 401, menu scan software 409, along with first and second memory locations 302 and 303. As described in detail below, direct scan software 401 and menu scan software 409 enable bar code information on bar code 306c to be inputted into a browser 304. Browser 304 then locates the associated web page or web site.

Computer 301 also includes a personal user database 316 stored in memory 360. The personal user database 316 contains personal data files on several users who share computer 301. A personal data file may

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contain a field name, field value and security field. These data files are separate and require passwords for access. The personal data file contains data that may be accessed by browser 304 when a user is using computer 301. The personal user database 316 may include

5 demographic, financial, health, and other personal information. As described below, the personal user database 316 will be used in conjunction with scanned input during information exchange from browser and a internet or intranet site.

Memory 360 also includes scanner translation software 500, custom browser page software 600, and registration software 480

10 described in detail below.

II. Methods of Obtaining Bar Code Information for a Web Browser

15 The following describes various methods for obtaining and using information from a bar code according to the present invention.

A. Direct Scan Method

Fig. 4a illustrates a direct scan method 401 according to the present invention. This illustrates, for example, the situation when the

20 user scans a bar code that contains data for locating an internet or intranet URL address 400a such as, "WWW.SOLVETECH.COM", illustrated in Fig. 4a.

Bar code 400 is read by a scanner as illustrated in logic block 402. A decoder converts the scanned bar code font into an ASCII character

25 string in logic block 403 and then control is transferred to logic block 404. In an embodiment, the ASCII string is a URL address. In other embodiments as described below, the bar code may include browser commands, program codes and/or data strings. In logic block 404, the bar code ASCII string is associated with a a preamble instruction to load

30 the ASCII string (URL address) into a browser URL address field. The

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ASCII string is then associated with a postamble command to initiate a search by a browser using the URL address identified by the ASCII string. The preamble and postamble instructions are assigned to a translated bar code string by a scanner decoder. Control is then transferred to logic block 405 where the preamble instruction commands the browser to open the browser URL address field. A URL address, for example "WWW.SOLVETECH.COM," as obtained from the bar code 400, is then entered into the browser URL field in logic block 406. Control is then transferred to logic block 407 where the postamble initiate a search command is then sent to the browser. Control is then transferred to logic block 408 where the function ends.

B. Menu Scan Method

Fig. 4b illustrates a menu scan method 409 according to the present invention. This is a situation, for example, when the user scans a bar code that results in a hyperlink being created in order to initiate a purchase. These hyperlinks can be constructed to create a menu with multiple choices for user interaction.

A bar code such as bar code 410 is scanned by a scanner in logic block 411. Bar code 410 includes URL address 410a, hyperlink name 410b and hyperlink address or file 410c. Bar code 410 also illustrates the use of standard symbols such as "<>" and "->" to identify bar code fields that a data process apparatus recognizes as delimiters or operators. In this case, "->" is used to instruct a browser to associate the URL address "WWW.STPURCH.COM" with hyperlink label "PURCHASE".

The scanned data is inputted into a data processing apparatus in logic block 411. Next the scanned bar code font is converted into an ASCII character string in logic block 412. In logic block 413, ASCII input string is analyzed to find browser commands. For example, "<>" is a load

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web page command; "/" is a browser command separator; and "->" is a hyperlink assignment command. Control is then transferred to logic block 414 where web page "www.solvetech.com" is loaded and displayed by a browser and then control is transferred to logic block 415 where a  
5 hyperlink button with label "PURCHASE" is created. Logic block 416 then assigns the hyperlink button to a URL address, such as "www.stpurch.com". The hyperlink is displayed by the browser in logic block 417. Control is transferred to logic block 418 where the function ends.

10 This establishes a hyperlink which may be viewed by a user and points to a web address or other programs.

### C. Registration method

Fig. 4c illustrates a product registration method 480 using a bar code.

15 Bar code 450 is entered by a scanner in logic block 451 and translated into ASCII code in logic block 452. Bar code information 450a is used to open and download file REG at WWW.SOLV.COM. The file REG contains an executable registration program. Then control is transferred to logic block 454 where variable PROD corresponding to a  
20 product identification (located in bar code information at 450b) in REG file is set to XGXX (located in bar code information at 450c). Then control is transferred to logic block 455 where bar code information 450d sets program REG variable SN corresponding to product serial number to 12323423 and then control is transferred to logic block 456. In logic  
25 block 456 the "&" opens the user's personal database 316, as illustrated in Fig. 3. Logic block 457 determines if there is a LASTNAME variable that contains data in said user's personal database. If yes, control is transferred to logic block 459, if no then control is transferred to logic

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block 458 where the user fills in database information for field "LASTNAME" and then control is transferred to logic block 459.

In logic block 459 it is determined if information corresponding to the "LASTNAME" field in user's personal database 316 is labeled as "private" if no, control is transferred to logic block 460; if yes, then control is transferred to logic block 461. In logic block 461 the user is asked to grant permission to transmit data which is asked for in user personal database 316. If yes, control is transferred to logic block 460; if no then control is transferred to logic block 463 where the NAME variable in a REG application is set to 0 and then control is transferred to logic block 462.

In logic block 460, the NAME variable in the REG application is set to the value contained in the LASTNAME field of personal user database 316 and then control is transferred to logic block 462.

In logic block 462, the REG program is executed.

#### D. Scanner input translation method

Fig. 5 illustrates a bar code scanner input translation method 500 according to the present invention.

Bar code data is scanned, as illustrated by logic block 501, when the user scans a bar code 501. The bar code may be attached or near by a product of interest.

The bar code may contain instructions and information on the product. When a user scans in the bar code, a program would be located, loaded, and executed, along with information contained in the bar code, as well as other information that the browser has access to on a user personal database.

Data is scanned in logic block 502 and then converted into an ASCII string, as illustrated by logic block 503. Control is then transferred to logic block 504 where the ASCII string is analyzed to determine if the

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scanned data contains only a URL address. If the bar code ASCII only contains a URL address, control is transferred to direct scan software block 404 in order to access a web site, as illustrated in Fig. 4a and described above. If the bar code ASCII string contains more than a URL address, control is transferred to logic block 506.

In logic block 506, the ASCII input string is segregated into two categories: (1) browser commands and related data and (2) program code. These inputs are transferred into logic block 507 and logic block 508, respectively. In different embodiments, program code can include HTML or VRML language, as well as JAVA or C++ code.

Bar code sections 501a-501d illustrate sections of a bar code 501. The bar code includes two types of scanned ASCII strings: browser command 501b and program code 501d. Scanned sections have precedence values located to the left of a section, as illustrated by 501a and 501c. In an embodiment, the higher the precedence value, the higher the browser command or program code execution precedence. In another embodiment, precedence values are not used and the order of sequence in bar code 501 determines precedence of execution.

Logic block 507 obtains browser command "MAKEBOOKMARK->WWW.FUNY.COM" and a precedence value of 9. An instruction is generated to a browser to make a bookmark at [www.funy.com](http://www.funy.com). Logic block 508 obtains program code 501d "main{cout << "Hi";endl;}". This program code has a precedence value of 3.

Logic block 509 receives browser commands and code from logic block 507 and 508 and begins execution according to precedence values. The bookmark command at [fun.com](http://fun.com) is executed first and the print "Hi" program code is executed second.

Conditional operators may also be used in the bar code, as illustrated in Fig. 4b-c as described above.



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### III. Method for Creating a Custom Web Page Using Scanner Input

5 The present invention describes a method 600 for creating a customized web page accessed by a browser for a specific user using bar code information. A bar code and scanner enables a browser to load specific files and/or images for the customized web page as well as parameters for the specific files. The bar code may also identify where parameters are located in the bar code or on another server. Using bar  
10 codes enables increased specificity and accurateness in the information presented to a user. Bar codes specifying different types of files and/or images for various users and/or products. For example, a bar code may be attached to a camera which has a specific URL address associated with cameras, while the manufacturer of the camera may have a different  
15 bar code and URL address attached to its film products. This eliminates the need for the user traversing through long lists of product names and categories, and collecting information necessary for the particular product at a generic company web page. The present invention eliminates the difficulties in combining the desired information for a user.

20 Fig. 6a illustrates bar code 601 which contains, among other information, file names for each file used in creating a customized web page, such as custom web page 680 illustrated in Fig. 6c. A file may contain image, text, video and/or sound information. The scanning of bar code 601 initiates an informational transfer sequence wherein data from a  
25 browser can be combined with data on bar code 601 to create a series of loading and executing commands whereby files are loaded to create a customized web page. Parameters can exist either on a bar code, from a user personal database or at a company's web site. Bar code 601 may initiate commands to transfer data from a personal data base. In an

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embodiment such transfer of data from a personal data file can be under the control and/or only with the permission of the user.

For example, bar code 601 may be located on or near a camera "XGXX" from Jerry's Photoshop. Bar code 601 begins with a URL address 601a, such as "WWW.JRY.COM" for Jerry's Photoshop. Following the URL address is the names of specific files associated with the customized web page. For example, the file name "ACC.HYP" at bar code segment 601e is the name of the file which contains graphics and hyperlinks for camera "XGXX" "ACCESSORIES" shown in Fig. 6c, and positioned in pane 2 as illustrated in Fig. 6b. Bar code segment 601b, includes the information specifying the number of panes or graphic tiles partitioning a display viewable by a user which are necessary to complete the customized web page. In this example, 9 panes are used, as illustrated in Fig. 6b. Numerous file names in bar code 601 contain files used to form the various panes. Bar code sections 601d, 601e, 601f, 601g, 601h, and 601i include other file names for creating customized web page 680. In an alternate embodiment, the custom web page 680 may be formed at a remote location on the internet where the panes are assigned to a file before downloading to a user. Bar code 601, in particular section 601c, also contains the product parameter, "XGXX" associated with bar code 601.

After scanning in bar code 601 and converting to an ASCII string, control is transferred to logic block 602 where an internet URL address 601a is identified. The URL address 601a is then opened using a browser, as illustrated in Fig. 3. Next, in logic block 603, the appropriate main file, "MAIN.HYP", at URL address 601a is opened. "MAIN.HYP" contains information on the format and construction of the customized web page 680 to be formed. For this example, the template in Fig. 6b illustrates where there are nine hyperlink panes for this customized web

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page. Six of the panes 610, 611, 612, 614, 616, and 617 are panes which include hyperlink to other media content; a click of a mouse key on a pane will hyperlink to another file or web page. A seventh pane (619) can hold only graphic data. The panes 615 and 613 can, for example, contain text or images only. File "MAIN.HYP" also contains files and other information pertinent to the product parameter "XGXX" passed by scanning of bar code 601.

Control is next transferred to logic block 604 wherein files with file names at bar code section 601b through 601i are download to a user. In logic block 605, a determination of the number of panes to be filed is made in order to confirm downloading. If there are errors in downloading, the results of the current downloading may be aborted and a user asked to repeat the bar code scanning. Alternatively, the data scanned in may be presented in a modified means by default—e.g., one pane of Fig. 6c may be left blank. The Fig. 6c template is then filled with download files in logic block 607 and the function ends in logic block 608.

The custom web page method 600 results in a customized web page for Jerry's Photoshop and in particular for the "XGXX" camera.

The foregoing description of the preferred embodiments of the present invention has been provided for the purposes of illustration and description. It is not intended to be exhaustive or to limit the invention to the precise forms disclosed. Obviously, many modifications and variations will be apparent to practitioners skilled in the art. The embodiments were chosen and described in order to best explain the principles of the invention and its practical applications, thereby enabling others skilled in the art to understand the invention for various

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embodiments and with the various modifications as are suited to the particular use contemplated. It is intended that the scope of the invention be defined by the following claims and their equivalents.

What is claimed is:

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CLAIMS

- 1           1)     An apparatus for obtaining information from a computer  
2     network using a bar code, comprising:  
3                 a data processing means, coupled to the computer network,  
4     having a software program for accessing the computer network; and,  
5                 a scanner means, coupled to a data processing means, for  
6     obtaining information from the bar code.
  
- 1           2)     The apparatus of claim 1, wherein the data processing  
2     means includes a computer, the software program includes a web  
3     browser and the scanner means includes a bar code reader.
  
- 1           3)     The apparatus of claim 1, wherein the data processing  
2     means includes a personal digital assistant.
  
- 1           4)     The apparatus of claim 1, wherein the information from the  
2     bar code includes an universal resource locator ("URL") address.
  
- 1           5)     The apparatus of claim 1, wherein the information from the  
2     bar code includes a browser command.  
3
  
- 4           6)     The apparatus of claim 1, wherein the information from the  
5     bar code includes a program instruction.
  
- 1           7)     The apparatus of claim 4, wherein data processing means  
2     includes a first software instruction for loading the URL address into the  
3     software program and a second software instruction for searching for the  
4     URL address.

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1           8)     The apparatus of claim 1, wherein the apparatus further  
2     includes a bar code decoder.

1           9)     A method for obtaining information on a computer network,  
2     comprising the steps of:  
3                 scanning a bar code having associated information; and,  
4                 accessing the computer network in response to the  
5     associated information.

1           10)    The method of claim 9 wherein, the method further includes:  
2                   determining whether the associated information includes a  
3     universal resource locator URL address and wherein the accessing step  
4     includes using the URL address to access the computer network.

1           11)    The method of claim 10 wherein, the accessing step  
2     includes:  
3                 converting the bar code associated information into an  
4     ASCII string;  
5                 identifying an universal resource locator ("URL") address in  
6     the ASCII string;  
7                 passing the URL address to a browser; and,  
8                 instructing said browser to locate the URL address.

1           12)    The method of claim 10 wherein, the accessing step  
2     includes:  
3                 converting the bar code associated information into an  
4     ASCII string;  
5                 identifying an universal resource locator ("URL") address in  
6     the ASCII string; and,

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7                   creating a hyperlink associated with the URL address.

1           13)   An apparatus for obtaining information from an Internet  
2   computer network using a bar code associated with a product,  
3   comprising:  
4               a computer, coupled to the computer network, having a web  
5   browser for accessing the Internet computer network; and,  
6               a bar code scanner, coupled to the computer, for obtaining  
7   information from the bar code, wherein the web browser accesses  
8   information on the Internet computer network in response to the  
9   information from the bar code.

1           14)   The apparatus of claim 13, wherein the web browser  
2   accesses a web page associated with the product in response to the  
3   information from the bar code.

1           15)   A data processing apparatus, comprising:  
2               a display for displaying data to a user;  
3               a bar code scanner for supplying input data in response to a  
4   user scanning a bar code;  
5               a web browser for accessing a computer network;  
6               a memory location, coupled to the display and the bar code  
7   scanner, for storing data, images, the web browser, and programs; and,  
8               a processor, coupled to the display, the scanner, the web  
9   browser and the memory location, for controlling the memory location, the  
10   scanner, and the display in response to stored programs and input data  
11   to perform data processing operations;  
12              wherein the program includes:

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13 means for converting the input data from the bar code  
14 scanner to ASCII data;  
15 means for identifying a user resource locator ("URL")  
16 address responsive to the ASCII data; and,  
17 means for passing the URL address to the web browser and  
18 instructing the web browser to search for the URL address.

1 16) A method for combining user personal data and information  
2 from a product having a bar code, comprising the steps of:  
3 scanning the bar code having associated information;  
4 converting the bar code associated information into an  
5 ASCII string;  
6 identifying a URL address associated with the product;  
7 accessing the URL address to load product information;  
8 accessing a personal database containing the user  
9 personal data; and,  
10 transferring personal data to the URL address responsive to  
11 bar code associated information.

1 17) A method for creating a customized web page using a bar  
2 code associated with a product, comprising the steps of:  
3 converting the bar code data to an ASCII string;  
4 identifying a URL address in the ASCII string;  
5 locating custom files at the URL address identified in the  
6 ASCII string; and,  
7 loading the custom files into associated panes.



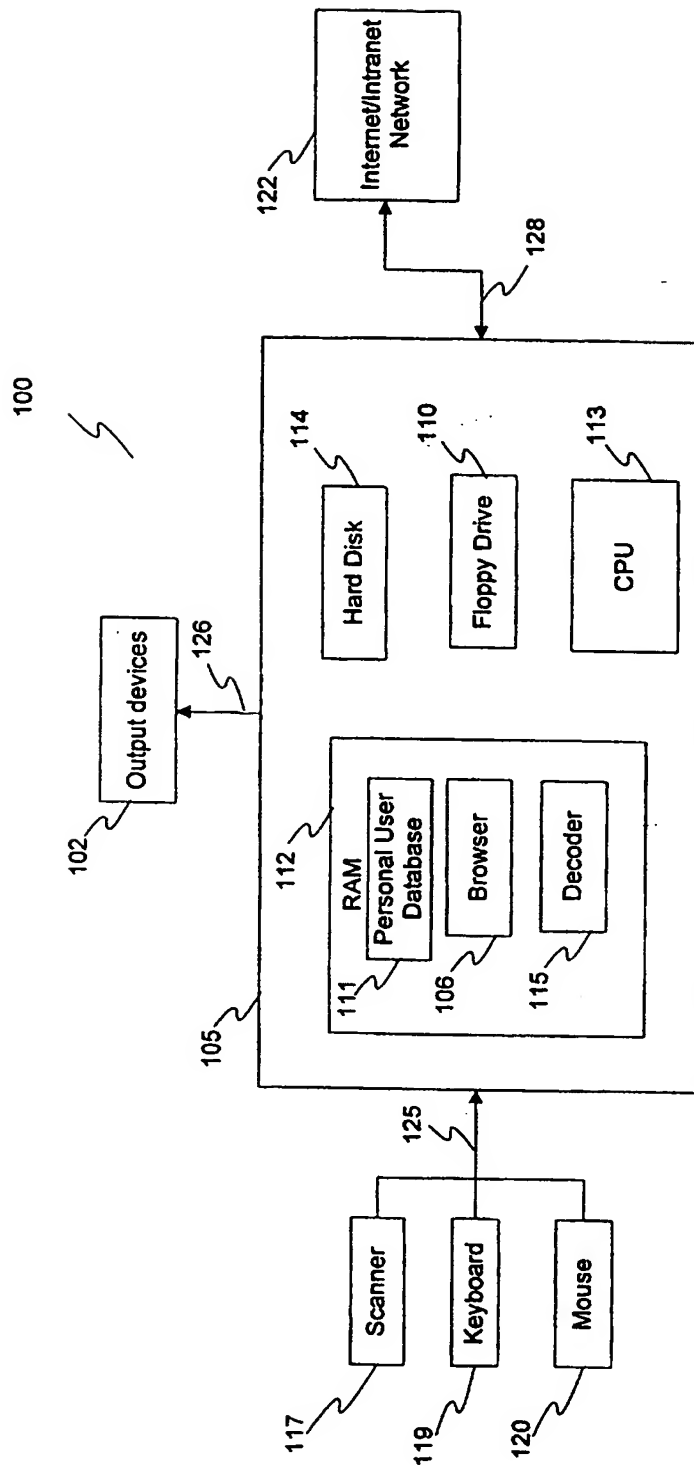


Fig. 1

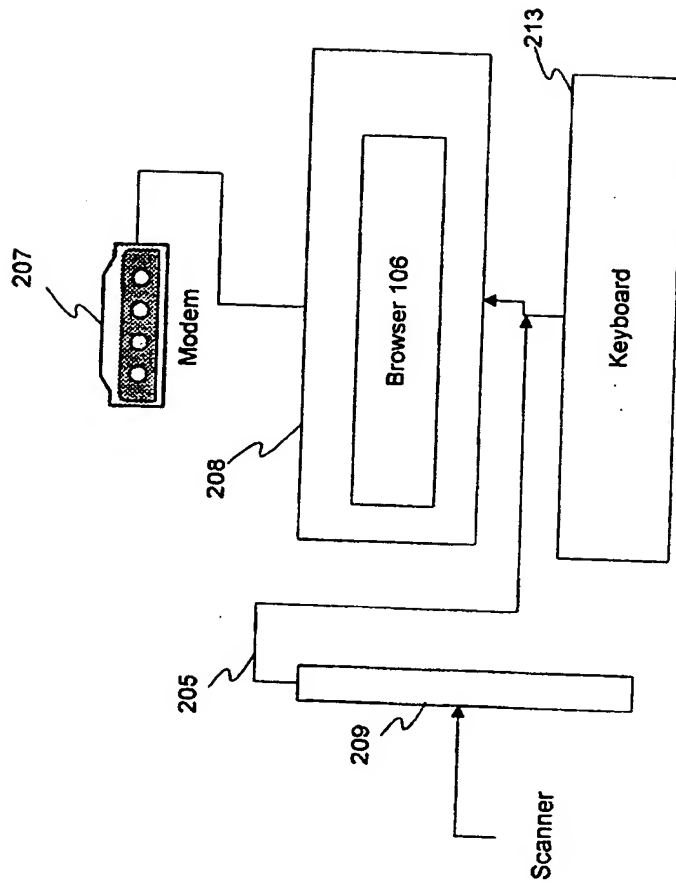


Fig. 2a

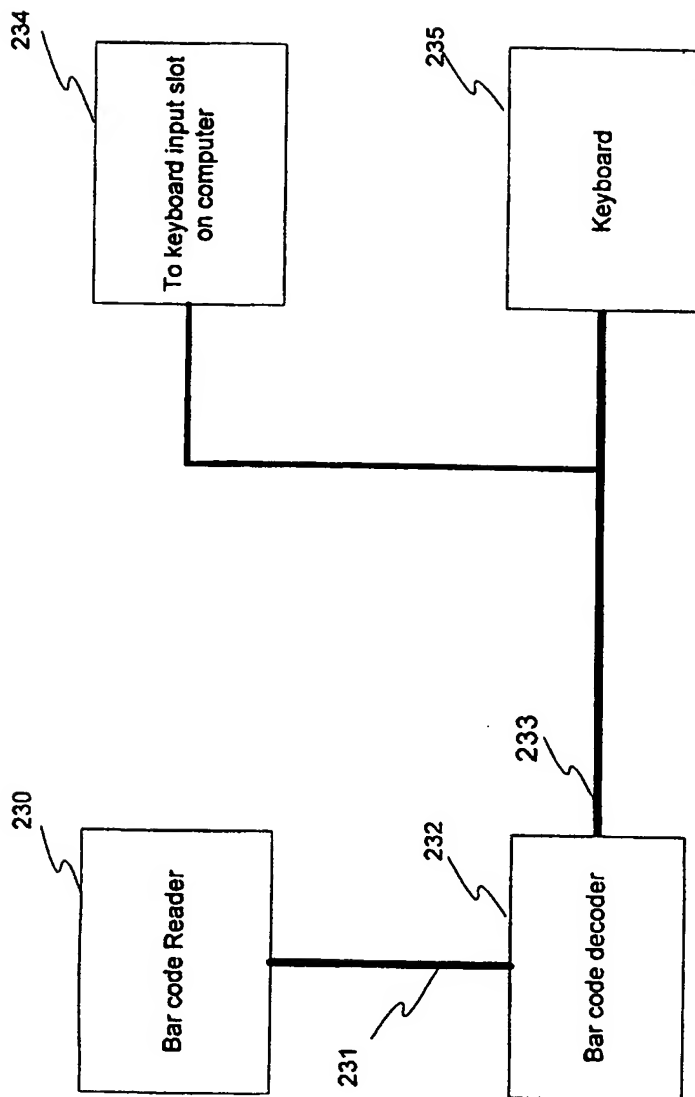


Fig. 2b

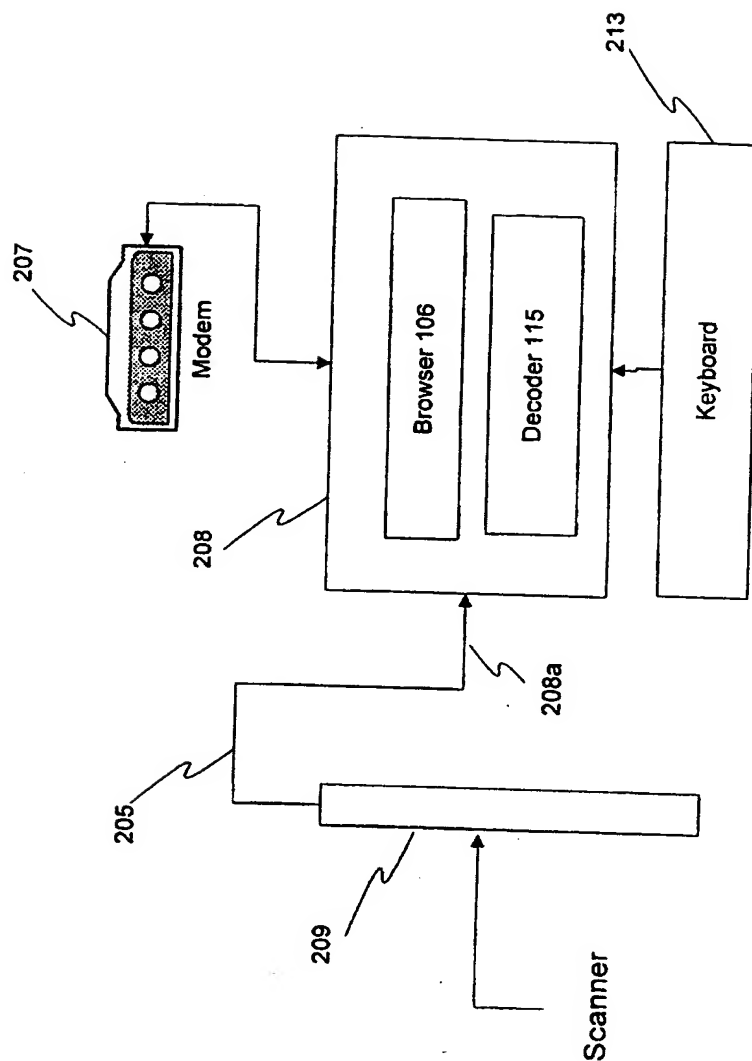


Fig. 2c

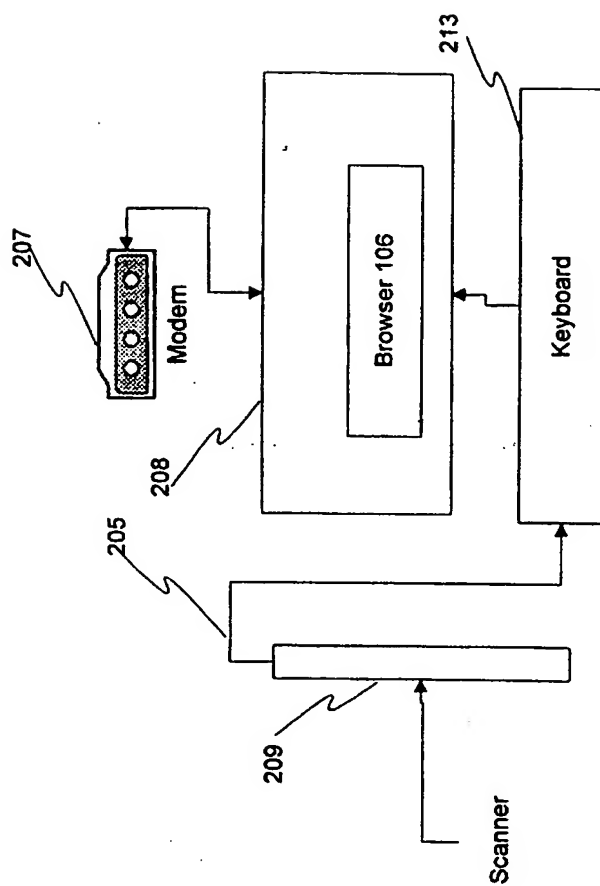


Fig. 2d

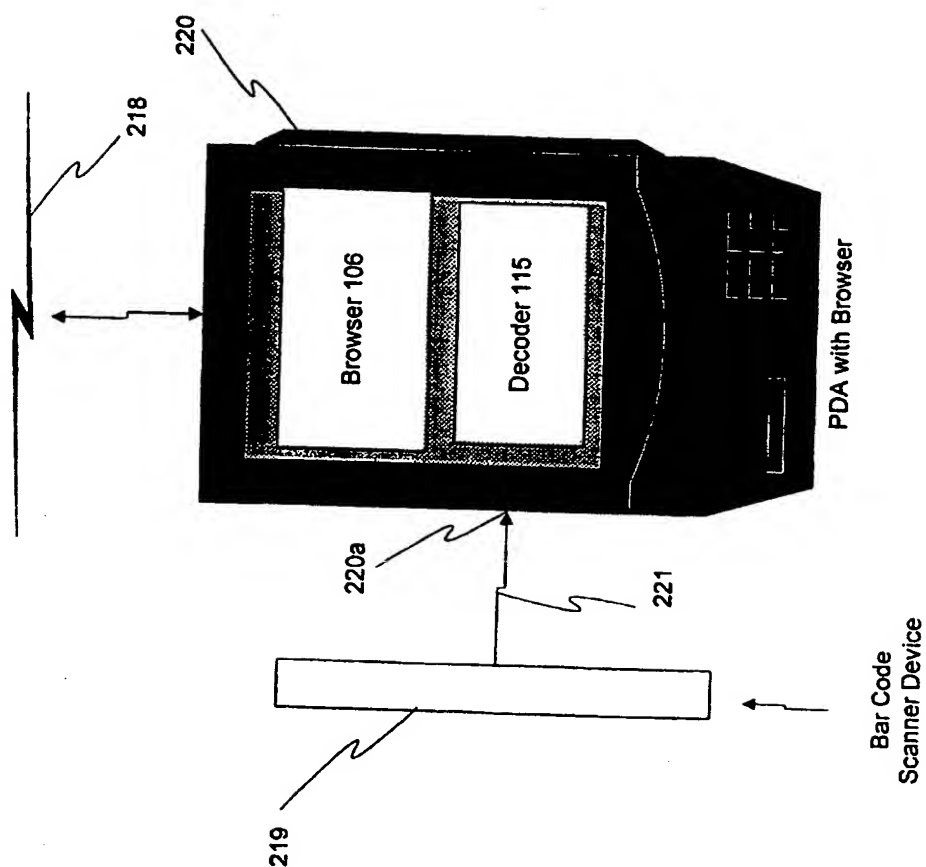


Fig. 2e

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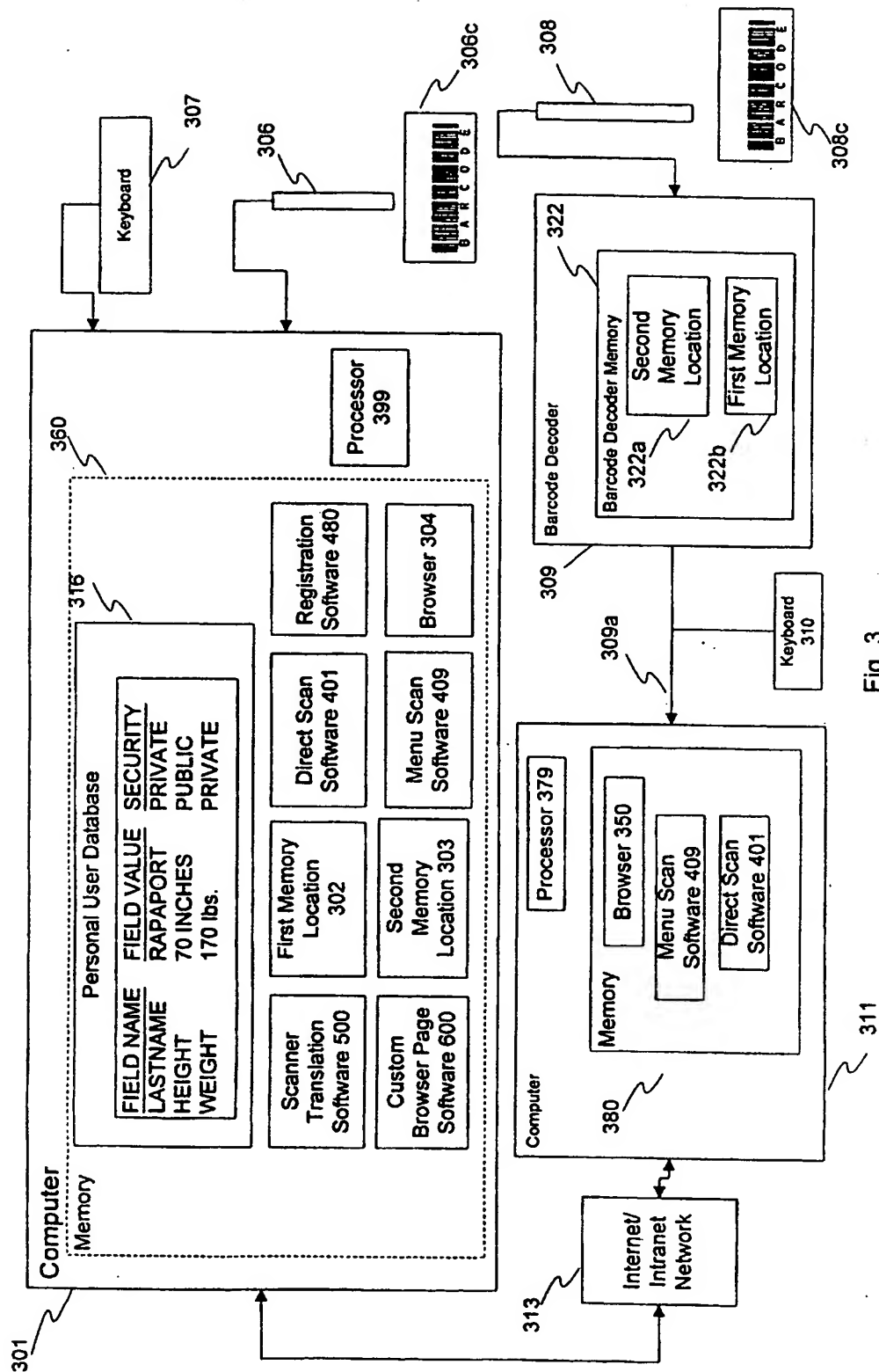


Fig. 3

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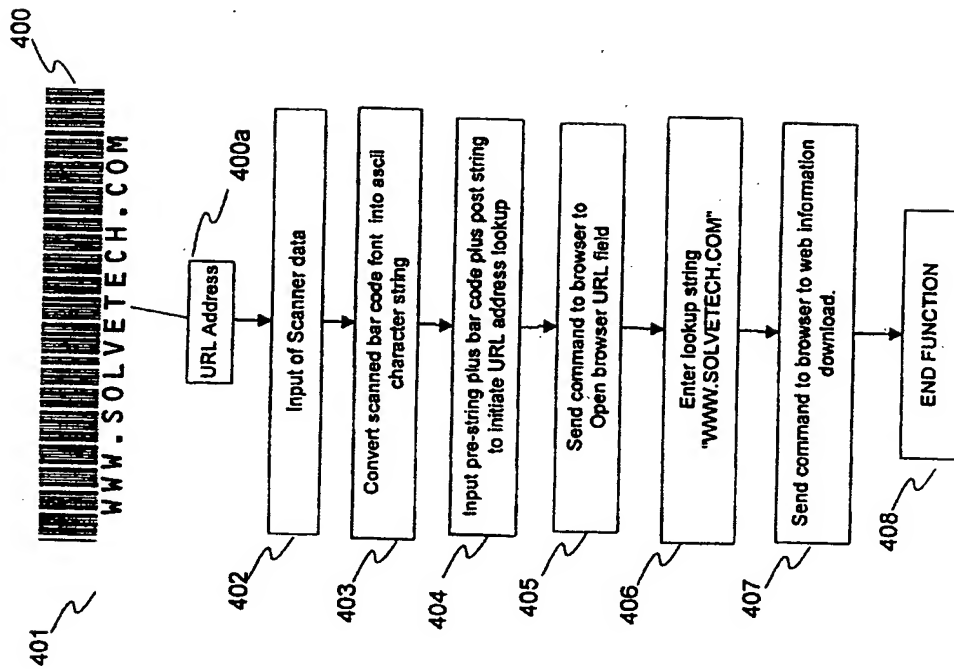
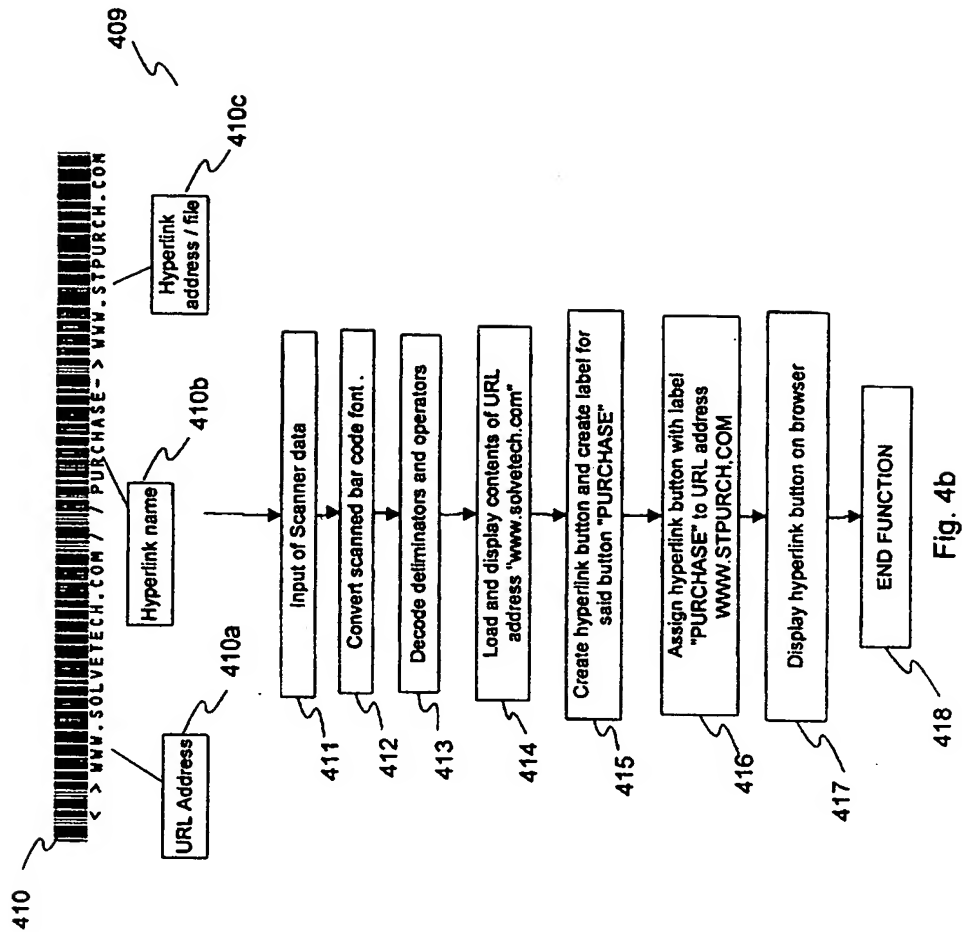


Fig. 4a



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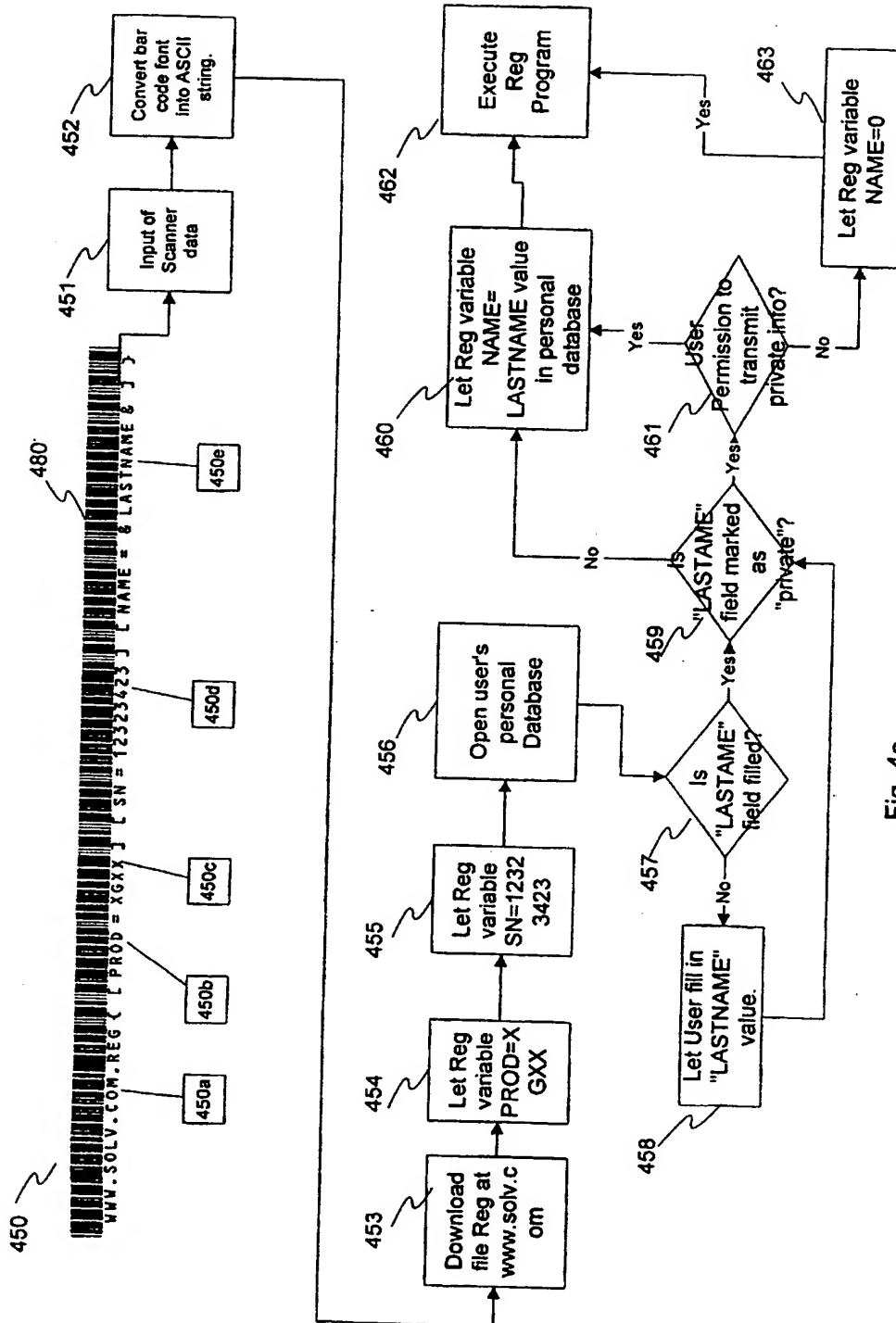


Fig. 4c

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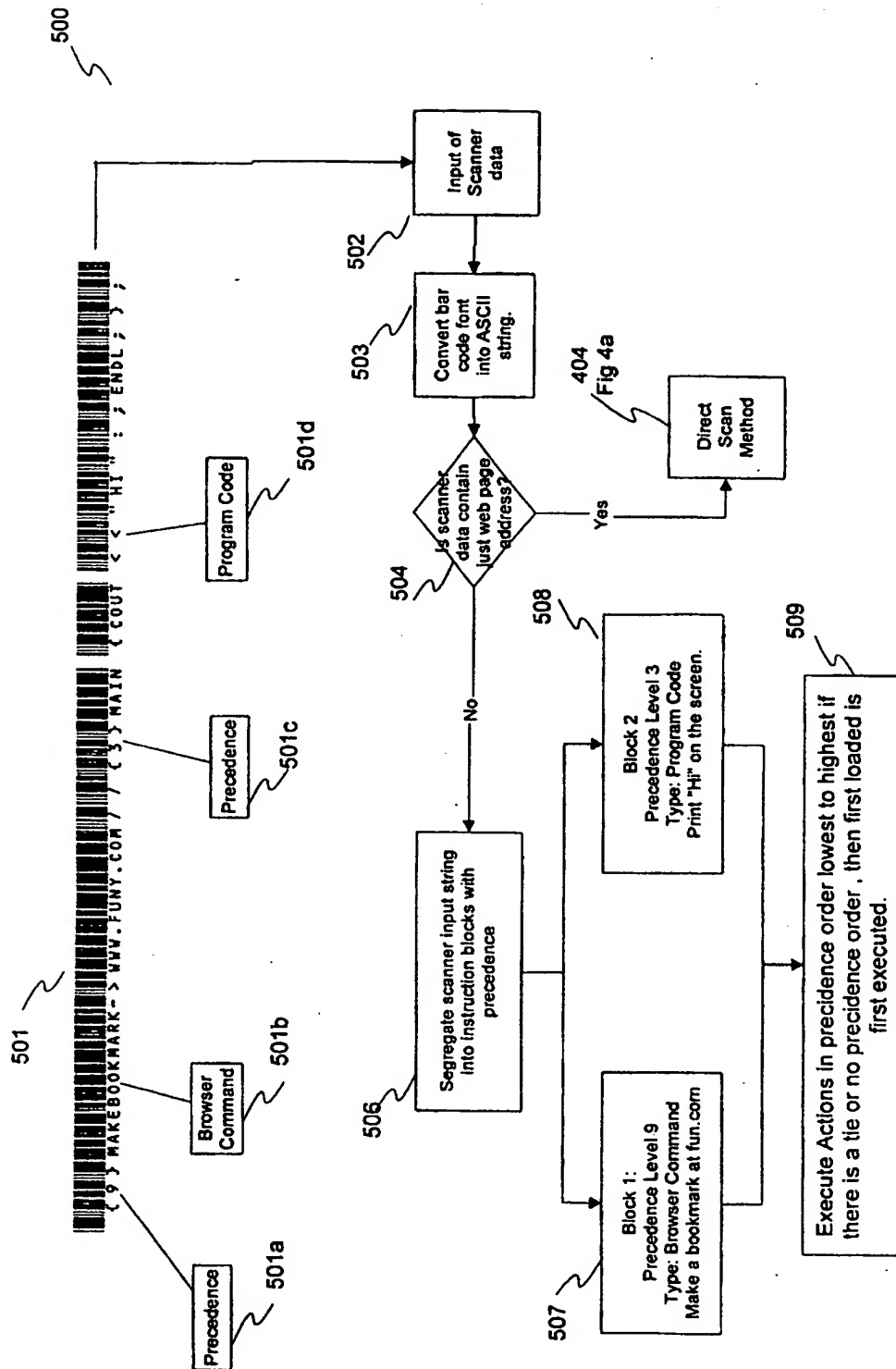


Fig. 5

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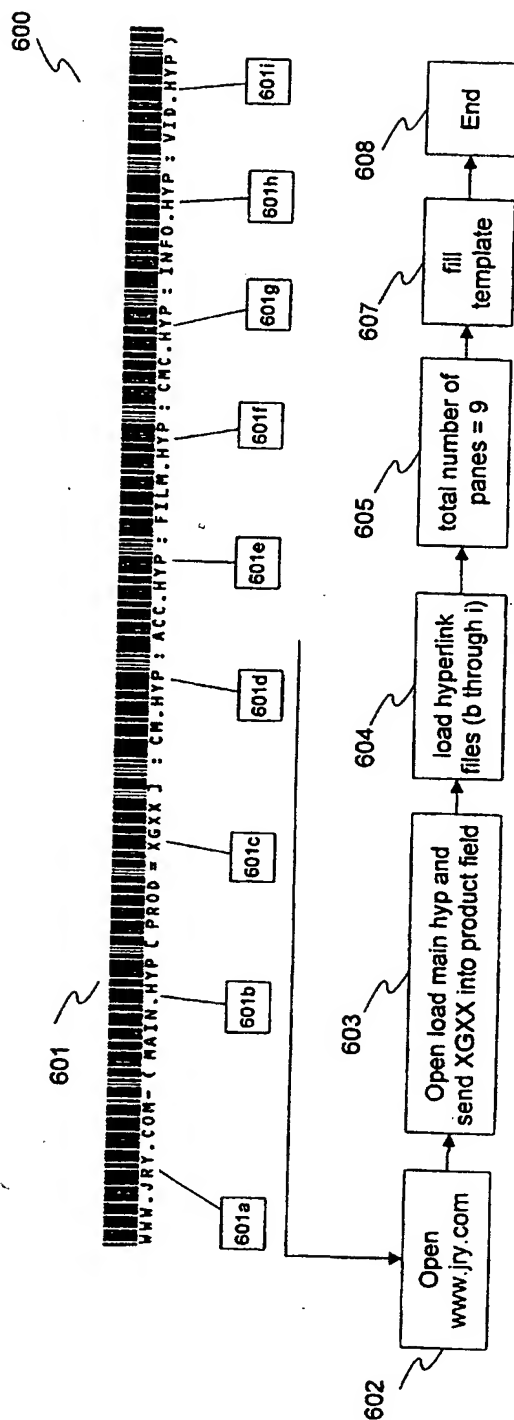


Fig. 6a

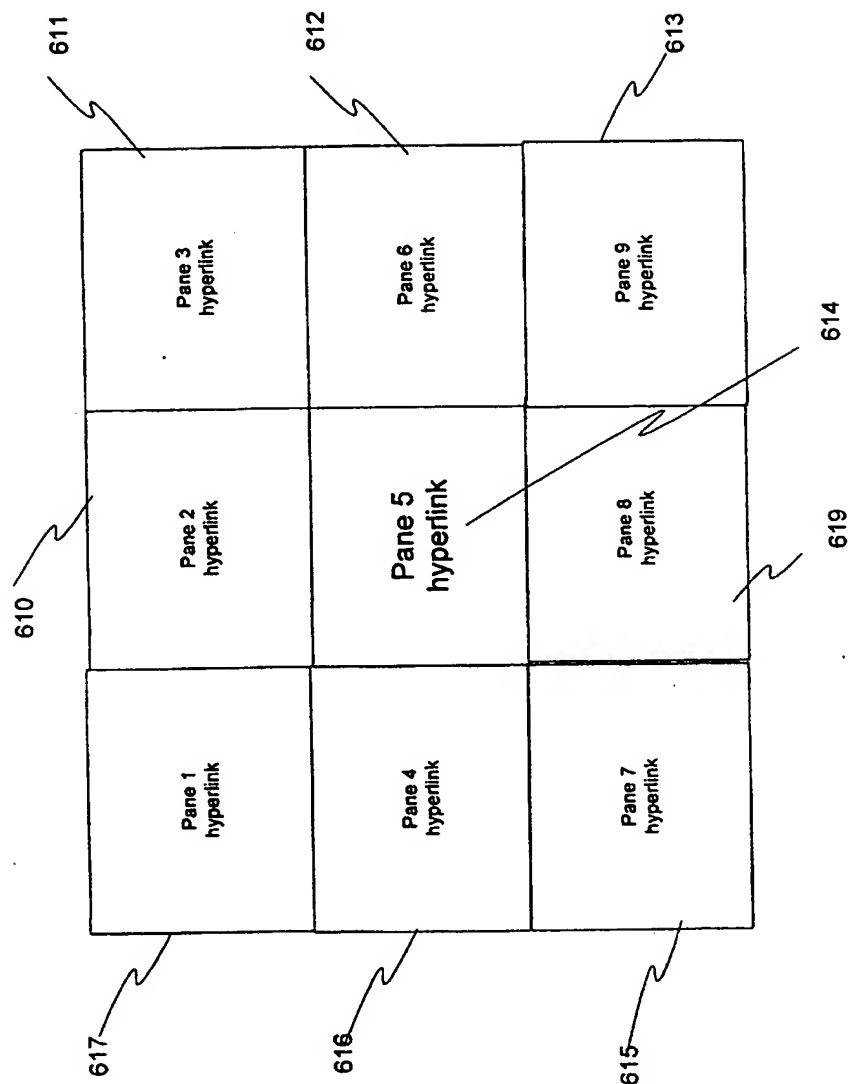


Fig. 6b

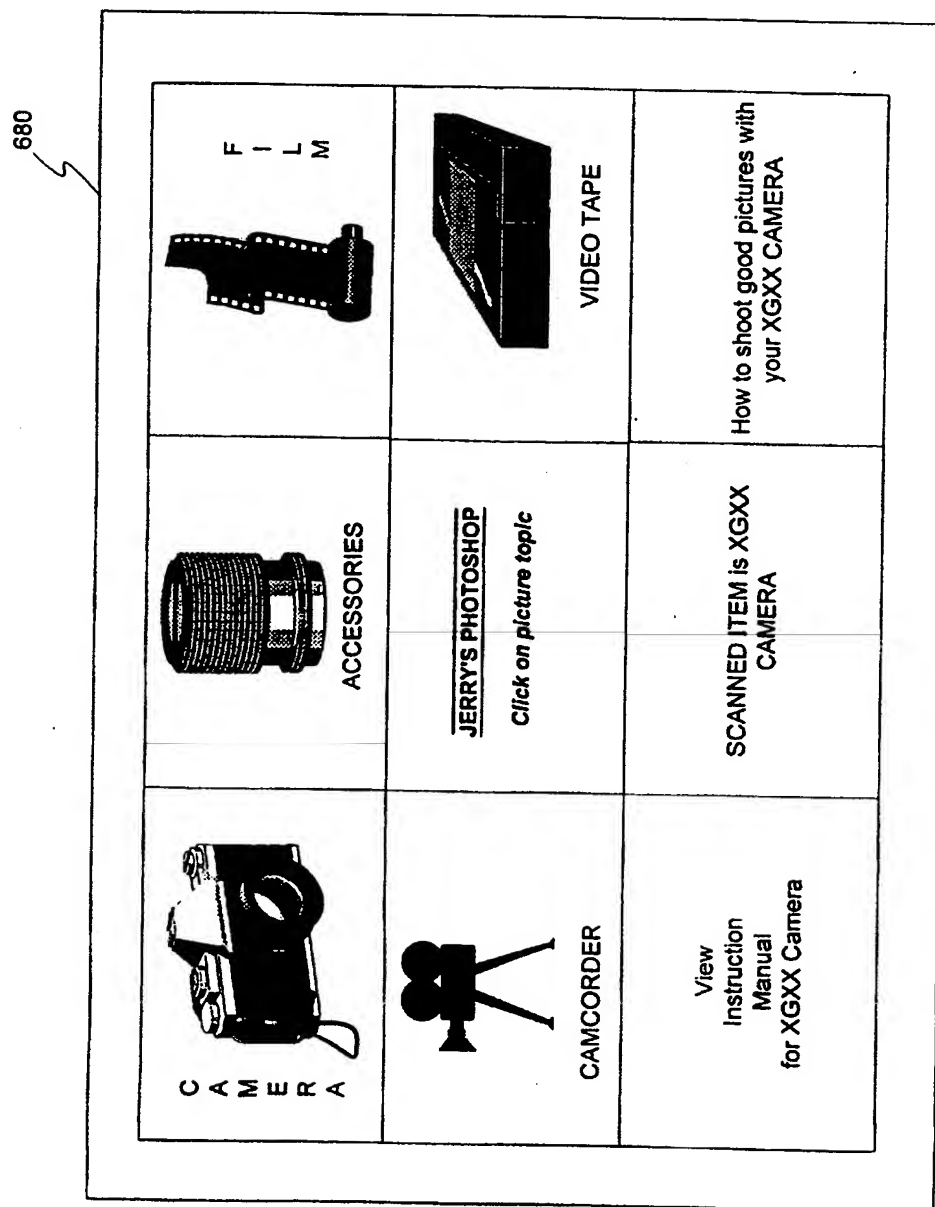


Fig. 6c

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US97/13689

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(6) : G06F 163/00, 13/14

US CL : 395/200.48, 200.75

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 395/200.33, 200.36, 200.47, 200.48, 200.49, 200.57, 200.75; 235/383, 385; 705/26, 27; 364/237.85; 463/36

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
Please See Extra Sheet.

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A,P	US 5,640,556 A (TAMURA) 17 June 1997, Abstract; Fig. 1-12.	1-17
X,P	US 5,640,193 A (WELLNER) 17 June 1997, Abstract; Fig. 1-4; Col. 2-4.	1-17
A,P	US 5,623,656 A (LYONS) 22 April 1997, Abstract; Fig. 1-2.	1-17
Y,P	US 5,604,682 A (McLAUGHLIN et al.) 18 February 1997, Abstract; Fig. 1-3; Col. 5-6.	1-17
Y,P	US 5,572,643 A (JUDSON) 05 November 1996, Abstract; Fig. 1-3; Col. 1, ln. 59 - Col. 3, ln. 12.	1-17

☒ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
*A* document defining the general state of the art which is not considered to be of particular relevance	*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
*E* earlier document published on or after the international filing date	*Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
*L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	*A* document member of the same patent family
*O* document referring to an oral disclosure, use, exhibition or other means	
*P* document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 02 OCTOBER 1997	Date of mailing of the international search report 3 7 NOV 1997
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230	Authorized officer MARK H. RINEHART Telephone No. (703)-305-9600

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US97/13689

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,544,320 A (KONRAD) 06 August 1996, Abstract; Fig. 1; Col. 4, lns. 6-42	1-17
Y	US 5,491,820 A (BELOVE et al.) 13 February 1996, Abstract; Fig. 1-4; Col. 6, ln. 7 - Col. 7, ln. 13.	1-17
Y	US 5,468,947 A (DANIELSON et al.) 21 November 1995, Abstract; Fig. 2-4, 6-9; Col. 5-9.	1-17
A	US 5,349,678 A (MORRIS et al.) 20 September 1994, Abstract; Fig. 3.	1-17
Y	US 5,221,838 A (GUTMAN et al.) 22 June 1993, Abstract; Fig. 1, 2A, 2B; Col. 4, ln. 25 - Col. 9, ln. 44.	1-17
Y	US 5,047,614 A (BIANCO) 10 September 1991, Abstract; Fig. 1-6; Col. 2, lns. 8-21; Col. 3, lns. 10-68.	1-17
A	US 4,247,908 A (LOCKHART, JR. et al.) 27 January 1981, Abstract; Fig. 1.	1-17



## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US97/13689

### B. FIELDS SEARCHED

Electronic data bases consulted (Name of data base and where practicable terms used):

#### USPTO APS

search terms: URL, URI, URN, URC, WWW, HTTP, HTML, hypertext, link, bar code, data terminal, browser, processor, scanner, TCP/IP, radio, RF, electronic wallet, SGML

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